

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 141-143, 145-150, 152, 154 and 155 are pending in the present application. Claims 132-140, 144, 151 and 153 have been canceled and claims 141-143, 145-148 and 150 have been amended by the present amendment.

In the outstanding Office Action, claims 141-149 were rejected under 35 U.S.C. § 101; claim 141 was rejected under 35 U.S.C. § 112, first paragraph; claims 150-155 were rejected under 35 U.S.C. § 102(b) as anticipated by Carlson; claims 141-146 and 150-154 were rejected under 35 U.S.C. § 103(a) as unpatentable over Roth et al. in view of Bourel; and claims 147-149 and 155 were rejected under 35 U.S.C. § 103(a) as unpatentable over Roth et al. in view of Bourel and Kanota et al.

It is respectfully noted Applicant's representative discussed this application with Supervisory Primary Examiner Calvin Hewitt on October 4, 2010. It is respectfully noted the independent claims have been amended in light of the discussion with Mr. Hewitt.

Regarding the rejection of claims 141-149 under 35 U.S.C. § 101, claim 145 has been amended to be directed to statutory subject matter based on the discussion with SPE Mr. Hewitt. Accordingly, it is respectfully requested this rejection be withdrawn.

Regarding the rejection of claim 141 under 35 U.S.C. § 112, first paragraph, the Office Action indicates that the original patent refers only to tapes, whereas claim 141 appears to be broadened beyond tapes. However, it is respectfully noted the tapes referred to in the original patent is only one embodiment of the present application, and thus, the specification is not limited to only tapes. For example, the last paragraph of the specification describes that while the present invention has been particularly shown and described with reference to particular embodiments thereof, it would be understood by those skilled in the art that various changes in form and details may be affected therein without departing from the spirit in scope of the invention. That is, the referring to a tape in the specification is only used as an example and is one embodiment of the present application. Accordingly, it is respectfully requested this rejection be withdrawn.

Regarding the rejection of claims 150-155 under 35 U.S.C. § 102(b) as anticipated by Carlson, the Office Action indicates the claims recite instructions which are not functionally related from the medium and thus do not further distinguish the claims from the cited art. However, it is

respectfully noted that independent claim 150 has been amended to clarify that the data on the disk affects the operation of a descrambler and thus it is respectfully submitted this further distinguish the claims from the prior art. It is respectfully submitted Carlson does not teach or suggest after the minimum number of the multiple of four transport packets have been descrambled, the descrambler is initialized based on second control data included in a different header of a corresponding data block for descrambling a different set of data blocks as now claimed. Accordingly, it is respectfully requested this rejection be withdrawn.

Claims 141-146 and 150-154 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Roth et al. in view of Bourel. This rejection is respectfully traversed.

Amended independent claim 141 includes a combination of elements and is directed to an apparatus for processing digital data. The apparatus includes a processor; and a memory connected to the processor and including executable instructions that when executed by the processor, cause the processor to perform: receiving digital data including a plurality of transport packets having a header and a scrambled data unit; detecting a header of a first transport packet included in the plurality of transport packets; extracting a marker from the header of the first transport packet; extracting first control data from the extracted marker; descrambling, using the same first control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the first transport packet and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the first transport packet; and determining a number of transport packets that have been processed, and when the processor determines the number of transport packets is a minimum of a multiple of four transport packets, the executable instructions further cause the processor to perform detecting the header of a next of four transport packet included in the plurality of transport packets; extracting a marker from the header of the next transport packet; extracting second control data from the extracted marker; and descrambling, using the same second control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the next transport packet and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the next transport packet. Independent claim 150 includes similar features in a varying scope.

These features are supported at least by the non-limiting features as shown in Figures 2 and 3 and described in the corresponding description in the specification. For example, these Figures

illustrate an apparatus for processing digital data. The apparatus includes a processor; and a memory connected to the processor and including executable instructions that when executed by the processor, cause the processor to perform: receiving digital data including a plurality of transport packets having a header and a scrambled data unit (see the transport packets in Figure 3); detecting a header of a first transport packet included in the plurality of transport packets (reference numeral 11 in Figure 2); extracting a marker from the header of the first transport packet (numeral 11 in Figure 2 and see Figure 3); extracting first control data CW1 from the extracted marker; descrambling 14, using the same first control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the first transport packet and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the first transport packet (see descrambling in Figure 3 for CW1); and determining a number of transport packets that have been processed, and when the processor determines the number of transport packets is a minimum of a multiple of four transport packets, the executable instructions further cause the processor to perform detecting the header of a next transport packet included in the plurality of transport packets; extracting a marker from the header of the next transport packet; extracting second control data from the extracted marker; and descrambling, using the same second control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the next transport packet and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the next transport packet (see CW2 being used for descrambling after a minimum of a multiple of four transport packets have been processed).

As discussed with SPE Mr. Hewitt, the applied art does not teach or suggest descrambling, using the same first control data and the same descrambler, both scrambled digital video data and audio data included in the scrambled data unit of the first transport packet and the scrambled digital video and audio data included in one or more succeeding scrambled data units in transport packets following the first transport packets as claimed by the present invention nor the additional feature of descrambling, using the same second control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the next transport packet and the scrambled digital video and audio data included in one or more succeeding scrambled data units in the transport packets following the next transport packet as claimed by the present application.

In addition, in a related application Serial No. 11/826,680, a new reference by Lee et al. (U.S. Re 33,189) was applied as teaching a same scrambler used to scramble both audio and video data. This reference is being filed in this application concurrently in an IDS.

However, in Lee et al., the signal processor 24 receives a PN sequence from PN sequence generator 18. However, it is respectfully submitted the clear signal or transmitted signal in Lee et al. is only a video signal and Lee et al. is similar to other references in which the video signal and audio signal were transmitted separately. For example, column 2, lines 41-46 of Lee et al. describe that the objects are achieved according to the invention defined in Lee et al. by using a cryptographic technique for scrambling and descrambling of the video signals. There is no description of the data including audio and video signals nor the same scrambler/descrambler being used and the same control word being used to scramble/descramble audio and video data as claimed. Rather, the only description in Lee et al. about the signals is that discussed above and that relates to video signals.

Accordingly, it is respectfully submitted independent claims 141 and 150 and each of the claims depending therefrom are allowable.

Further, it is respectfully submitted the additional rejection noted in the Office Action has also been overcome as the claims rejected therein are dependent claims and the additionally applied reference also does not teach or suggest the features of the amended independent claims.

CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact David A. Bilodeau (Reg. No. 42,325) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: **OCT 25 2010**

Respectfully submitted,

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By



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Enclosure: 1) APPENDIX A – LISTING OF ALL CLAIMS

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1-140. (Canceled)

141. (Currently Amended) An apparatus for processing digital data, the apparatus comprising:

a processor; and

a receiving part to receive a memory connected to the processor and including executable instructions that when executed by the processor, cause the processor to perform:

receiving digital data, the received digital data including a plurality of data blocks, transport packets having a header and a scrambled data unit;

detecting each of the data blocks having a header of a first transport packet included in the plurality of transport packets and a scrambled data unit, at least the header in a first data block among the plurality of data blocks including;

extracting a marker from the header of the first transport packet;

extracting first control data from the extracted marker, the control data being used for controlling a parameter of a scrambling/descrambling operation and the same control data being used for one or more succeeding scrambled data units;

a descrambler to descramble descrambling, using the same first control data and the same descrambler, both scrambled digital video and audio data included in the scrambled data unit of the first transport packet data block and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the first transport packet data blocks among the plurality of data blocks based on the control data included in the first data

~~block, each of the scrambled data units including scrambled digital video data or scrambled digital audio data,~~

~~wherein the same deserializer is used to desramble both the scrambled digital video data and the scrambled digital audio data; and~~

~~a controller, operatively coupled to the deserializer, to control the desrambling operation by the deserializer; and~~

determining a number of transport packets that have been processed, and

when the processor determines the number of transport packets is a minimum of a multiple of four transport packets, the executable instructions further cause the processor to perform

detecting the header of a next transport packet included in the plurality of transport packets;

extracting a marker from the header of the next transport packet;

extracting second control data from the extracted marker; and

desrambling, using the same second control data and the same deserializer, both scrambled digital video and audio data included in the scrambled data unit of the next transport packet and the scrambled digital video and audio data including in one or more succeeding scrambled data units in the transport packets following the next transport packet.

142. (Currently Amended) The apparatus of claim 141, ~~wherein the control data is used to initialize further comprising:~~

initializing the deserializer using the first and second control data for performing the desrambling operation, and

~~wherein the controller is configured to initialize the deserializer based on the control data.~~

143. (Currently Amended) The apparatus of claim 141, wherein the executable instructions further cause the processor to perform ~~deserambler is configured to desramble~~ desrambling each scrambled data unit, except for the header, in each of the plurality of data blocks.

144. (Canceled).

145. (Currently Amended) The apparatus of claim 141, wherein at least two of the scrambled data units and the header including the control data comprise one data group, the header including the control data, and

wherein the executable instructions further cause the processor to perform ~~apparatus further comprises:~~

~~a demultiplexer to separate~~ separating the at least two scrambled data units and the header from one data group before the descrambling.

146. (Currently Amended) The apparatus of claim 145, wherein the data group includes at least two packets, at least the first packet including one data unit and the header, and wherein the executable instructions further cause the processor to perform: ~~demultiplexer is configured to demultiplex~~ demultiplexing the at least two packets from one data group.

147. (Currently Amended) The apparatus of claim 145, wherein the executable instructions further cause the processor to perform ~~further comprising:~~

~~a detector to detect~~detecting the header from the received data group; and
~~to detect~~detecting the control data within the header.

148. (Currently Amended) The apparatus of claim 145, wherein the data group further includes copy prevention information, the copy prevention information including one of current generation information and allowable generation information, the current generation information indicating a number of times the digital data has been copied, and the allowable generation information indicating a number of permitted copies of the digital data, and
wherein the executable instructions further cause the processor to perform~~controller is further configured to control~~controlling a copy prevention function such that copying of the digital data is not permitted if the copy prevention information indicates that copying of the digital data is not permitted.

149. (Previously Presented) The apparatus of claim 141, wherein the descrambling of the scrambled digital units by the descrambler is performed only if the copy prevention information indicates that the copying of the digital data is permitted.

150. (Currently Amended) A data storage medium accessible by a digital data processing apparatus including a descrambler, the data storage medium comprising:
a data area for storing digital data ~~therein, the stored digital data~~ including a plurality of data blocks, ~~each of the data blocks~~ having a header and a scrambled data unit, ~~at least~~ the header in a first data block among the plurality of data blocks including first control data, one or more of the scrambled data units and the first control data being stored on the data storage medium, the first

control data included in the first data block being used to descramble the first data block and ~~one or more~~ a minimum of a multiple of four succeeding data blocks among the plurality of data blocks, wherein the first control data is used for controlling a parameter of a descrambling operation performed by the descrambler of the digital data processing apparatus, and the same first control data is used for ~~one or more succeeding the first and the minimum of four succeeding~~ scrambled data units,

wherein each of the scrambled data units includes scrambled digital video data or scrambled digital audio data stored on the data storage medium, and

wherein both the scrambled digital video data and the scrambled digital audio data are descrambled by the same descrambler, and

wherein after the minimum of the multiple of four transport packets have been descrambled, the descrambler is initializing based on second control data included in a different header of a corresponding data block for descrambling a different set of data blocks.

151. (Canceled).

152. (Previously Presented) The data storage medium of claim 150, wherein each scrambled data unit is descrambled while the header is not descrambled, in each of the plurality of data blocks.

153. (Canceled).

154. (Previously Presented) The data storage medium of claim 150, wherein at least two packets comprise one data group, at least first packet including one scrambled data unit and the header, the header including the control data.

155. (Previously Presented) The data storage medium of claim 150, wherein the one or more scrambled data units and the control data comprise one data group, the data group further including copy prevention information, the copy prevention information including one of current generation information and allowable generation information, the current generation information indicating a number of times the digital data has been copied and the allowable generation information indicating a number of permitted copies of the digital data, and

the copy prevention information being used for a copy prevention function in a reproducing/reproducing/recording apparatus such a manner that copying of the digital data is not permitted if the copy prevention information indicates that the copying of the digital data is not permitted.